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ABSTRACT

The study was designed to identify the patterns, if any, that language impaired children use when employing stress in spontaneous speech. Five preschool boys with a variety of language problems involving pragmatics, syntax, semantics, and/or phonology were identified as subjects. Both had received language therapy within the last 5 years and, during this study, continued to receive speech therapy at least two times per week. Two-word utterances in spontaneous language samples were analyzed to determine which of the two words was more stressed (more perceptually prominent). The placement of the stressed word was then classified in three ways: (1) into one of 13 semantic categories; (2) by whether or not it added information not previously available in an interchange; and (3) by whether it was the first or second word of the utterance. When compared to previous research on normally developing children, findings indicated that both language impaired and normal language children have preferences regarding the placement of stress. However, language impaired subjects stressed different semantic categories. The position of the stressed word in the utterance appeared to extract the strongest influence on stress placement. The word order preference may occur because language disordered children at this age have not yet achieved linguistic control of stress. (CL)

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EARLY STRESS PATTERNS OF LANGUAGE IMPAIRED CHILDREN

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Prosody plays many important roles in the production and perception of speech. It is a truism that children develop control over this aspect of language first and that language-impaired children, for the most part, have little trouble with the prosodic component of language. Unfortunately, this, like many truisms, has not been supported by data.

The goal of this paper is to explore one aspect of the prosody of language-impaired children--contrastive stress. In adult speakers, contrastive stress is used to mark new information and it is signalled by relative prominence within an utterance. The prominence can be brought about by changes in duration, intensity, and/or pitch (Allen & Hawkins, 1980; Fry, 1955; Lieberman, 1967; Lieberman, Harris & Sawashima, 1970).

Wieman (1976) indicated that young normally developing children with MLUs ranging for 1.3 to 2.4 had established a preference for stressing new information in spontaneous speech. Other researchers (e.g., Brown, 1973; Weir, 1962) have provided support for this contention that very young children use contrastive stress in spontaneous language.

We know little about how language-impaired children use contrastive stress in spontaneous speech. Baltaxe (1984), however, has demonstrated that language-impaired children perform at a level significantly below that of normal children on an experimental task requiring the use of contrastive stress.

The purpose of this study was to identify the patterns, if any, that language-impaired children use when employing stress in spontaneous speech. For the purpose of comparison, our methodology closely followed that of Wieman.

METHOD

Subjects

The clinical files at Mankato State University were inspected until five files with qualifying language samples were identified. Qualifying language samples were audiotaped language samples (1) that were elicited from children whose customary mean length of utterance (MLU) was representative of Brown's Stages I or II; (2) for which the MLU of the specific sample ranged from 1.3 to 2.4; and (3) for which lexical transcriptions were available.

Following the identification of five potential subjects, we secured the permission of the parents to use the clinical tapes and transcripts in this retrospective study. The identified subjects were 5 male preschoolers who had received language therapy at the Mankato State University Speech and Hearing Clinic within the last five years.

At the time the samples were elicited, each of the boys was receiving therapy at least two times per week for one-half hour per session. The boys evidenced a variety of language problems involving pragmatics, syntax, semantics, and/or phonology. Accordingly, the therapeutic

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objectives had included a wide range of procedures and contents. Prosodic problems, however, were not noted in the initial complaints nor did they serve as the basis for therapy.

The children's hearing was within normal limits as determined by audiological testing at the University clinic. Nevertheless, several of the subjects had been reported to have a history of middle ear infections.

Procedures

Collection of original samples. The samples which had been identified as qualifying language samples had been collected as part of student clinicians' clinical assignments. Student clinicians had been required to elicit, audiotape, and lexically transcribe spontaneous language samples one to two times per week throughout the course of therapy. The student clinicans had attempted to employ elicitation procedures based on Hubbell (1977). That is, they tried to maintain a high ratio of facilitating to constraining remarks during elicitation procedures.

Identification of Study Data. In accordance with Wieman's procedures, only the two-word utterances in the qualifying language samples were targeted for analysis. The remaining utterances, although retained to provide contextual information, were not analyzed.

Data Analysis

A judge identified the more stressed word of each two-word utterance. Our definition of "the more stressed word" was the more perceptually prominent word in the utterance. Subsequent to the identification of the stressed word, the judge categorized the placement of the stressed word in each two-word utterance in three ways: (1) semantic category, (2) given-new dichotomy, and (3) word order.

Semantic categories. Each stressed word was classified into one of thirteen semantic categories: agent, attribute, demonstrative, locative-noun, locative-preposition, negative, noun, object, possessive, prolocative, recurrence, verb, and other.

Given-new dichotomy. Each stressed word was classified as representing given/old or new information. Following McCaleb and Prizant (1985), new information was defined as adding information not previously available in a interchange. Given/old information was defined as encoding information that previously had been marked in an interchange.

Word Order. Finally, the stressed word was classified relative to its position in the utterance. That is, each stressed word was coded as representing the first or the second word of an utterance.

Reliability

Measures were taken to ensure the reliability of (1) the original lexical transcription, (2) the perceptual judgments of stress, and (3) the categorization of the placement of the stressed word relative to semantic category, given/old-new dichotomy, and word order.

Results

Semantic Category

Wieman's subjects had demonstrated a preference for the locative, possessive, objective, and attributive semantic categories. Our subjects also showed a preference for stressing selected semantic categories. However, our subjects differed from Wieman's subjects in the semantic categories that were most frequently stressed.

Figure 1 presents our subjects' preferences relative to the stressing of

the semantic categories. It represents each semantic category's likelihood of being stressed. Thus, DEM (Demonstrative) was the most frequently stressed semantic category because it was stressed 100% of the time. The other commonly stessed semantic categories were objective, locative-preposition, and possessive. The major problem associated with this figure is represented by the hatched bars. (The hatched bars represent semantic categories that occurred less than 15 times in the sample.)

Given/Old-New Dichotomy

Wieman noted that normal children tend to stress information that is new to the interchange. We investigated this in our study (see Figure 2) and found that new information accounted for approximately 60% of the stressed items. Although this, indeed, was higher than a 50-50% split as represented by the dotted line on Figure 2, it was not quite as large as we had expected.

Word Order

Wieman did not explore her subjects' preferences relative to word order. Nevertheless, we investigated word order preferences and the use of stressing relative to word order is represented in Figure 3. As you can see, the second position was used about 75% of the time. (For contrastive purposes, the dashed line indicates the level at which stress would be equally represented across positions.) Thus, word order seemed to more strongly attract stress than did given-new information.

The final figure (Figure 4) visually presents the interaction between the word order and the given/old-new data. This is an important comparison because, in adult speech, new information and POSITION 2 frequently co-occur (Clark & Clark, 1977). The figure displays the distribution of the raw data for the frequency of use of stress. The figure is shaded to highlight the obvious preference for POSITION 2. The POSITION 2 (Row 2) cells are the most commonly used cells with new information in POSITION 2 (see Col 2, Row 2) serving most often as the loci of stress. The second most preferred cell is given/old information in the POSITION 2 (see Col 1, Row 2).

DISCUSSION

The results of this study suggest that language-impaired children, like their counterparts with normal language, have preferences relative to the placement of stress. However, language-impaired children differ from normal children relative to the nature of the stressed word. Language-impaired children stressed different semantic categories. Additionally, the position of the stressed word in the utterance appeared to extract the strongest influence on stress placement.

In attempting to generate reasons for this proclivity for word order we conjectured that linguistic control of stress may be a skill that these language-impaired youngsters had not yet achieved and that a word order or positional preference may be a more primitive strategy than attending to new information. This is reasonable when one considers that the word order preference would not be related to linguistic or communicative information-- an area in which these children have documented difficulty.

On the other hand, the apparent word order preference could iatrogenic, i.e.,be caused by the clinical training procedures. Admittedly, none of the children had been exposed to prosodic training. However, we know little about the prosodic modifications that speech-language pathologists employ (intentionally and unintentionally) during training and during

clinical discourse. Perhaps, the subjects were reproducing prosodic patterns that had been modelled for them in clinic sessions.

Of course, the differences between the findings of this study and those of Wieman may be related to our deviations from her study. We made several modifications in Wieman's procedures. First, this was a retrospective study. Second, the transcripts for our subjects were derived from several sessions. Third, all of our subjects were male. Fourth, our subjects were considerably older than Wieman's. Fifth, some of our semantic categories differed from Wieman's. And, finally, we had a smaller data base than Wieman. Any one of these modifications could have accounted for our differing findings.

This possibility not withstanding, the results suggest that continued exploration of the prosodic skills of language-impaired children is warranted to determine if we have been overlooking prosody as an area of breakdown in language-impaired children.

REFERENCES

Allen, G.D., & Hawkins, S. (1980). Phonological rhythm: Definition and development. In G.H. Yeni-Koshian & J.F. Kavanagh (Eds.), Child phonology. Vol I: Production (pp. 227-256). New York: Academic Press.

Baltaxe, C.A.M. (1984). Use of contrastive stress normal, aphasic, and autistic children. Journal of Speech and Hearing Research, 27, 97-105.

Brown, R. (1973). A first language: The early stages, Cambridge, MA: Harvard University Press.

Clark, H.H., & Clark E.V. (1977). Psychology and language: An introduction to psycholinguistics. New York: Harcourt Brace Jovapovich.

Fry, D.B. (1955). duration and intensity as phsyical correlations of lingistic stress. Journal of the Acoustical Society of America, 27, 765-768.

Hubbell, R.D. (1977). On facilitating spontaneous talking in young children. Journal of Speech and Hearing Disorders, 42, 216-231.

Lieberman, P. (1967). Intonation, perception, and language. Cambridge, MA: MIT Press.

Lieberman, P., Harris, K.S., & Sawashima, M. (1970). On the physical correlates of some prosodic features. In P.R. Leon, G. Faure, & A.R. Rigault (Eds.), Prosodic feature analysis (pp. 33-53). Montreal: Librairie Didier.

McCaleb, P., & Prizant, B.M. (1985). Encoding of men versus old information by autistic children. Journal of Speech and Hearing Disordera,50, 230-240.

Weir, R. (1962). Language in crib. The Hague: Mouton.

Wieman, L.A. (1976). Journal of Child Language, 3, 283-286.

Figure 1

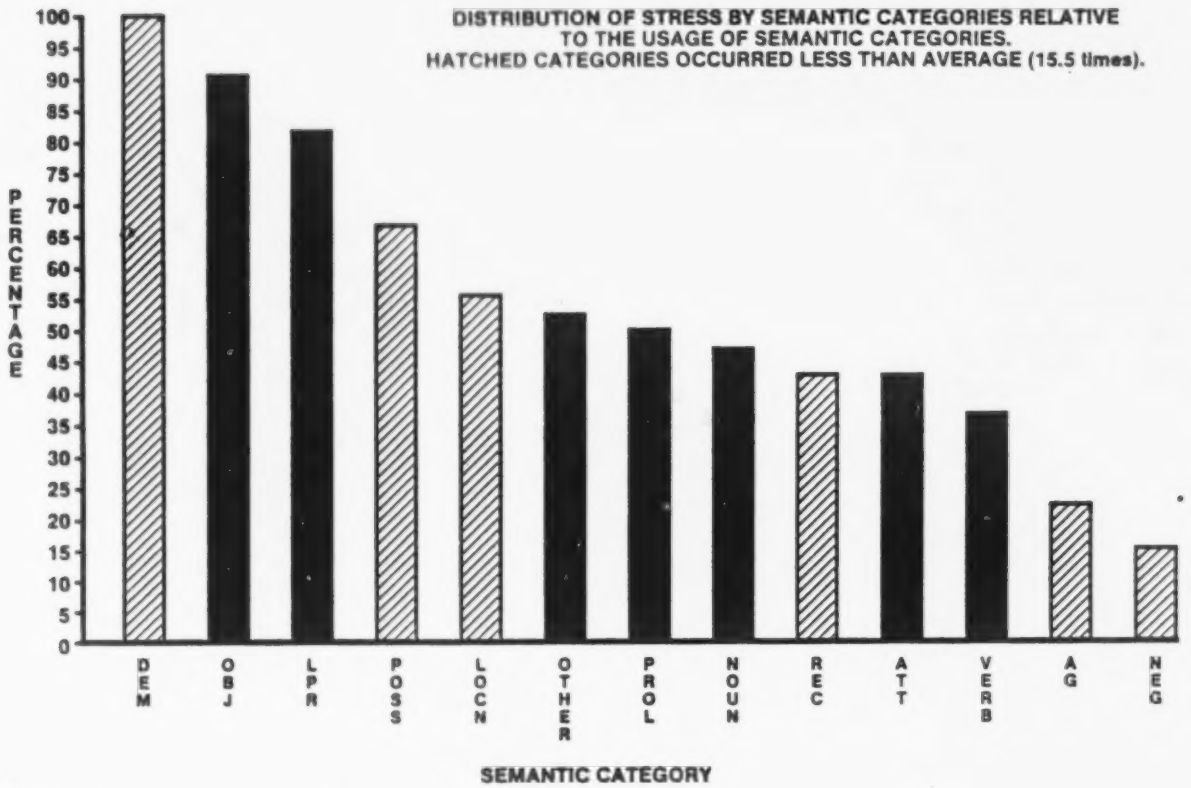

Figure 2

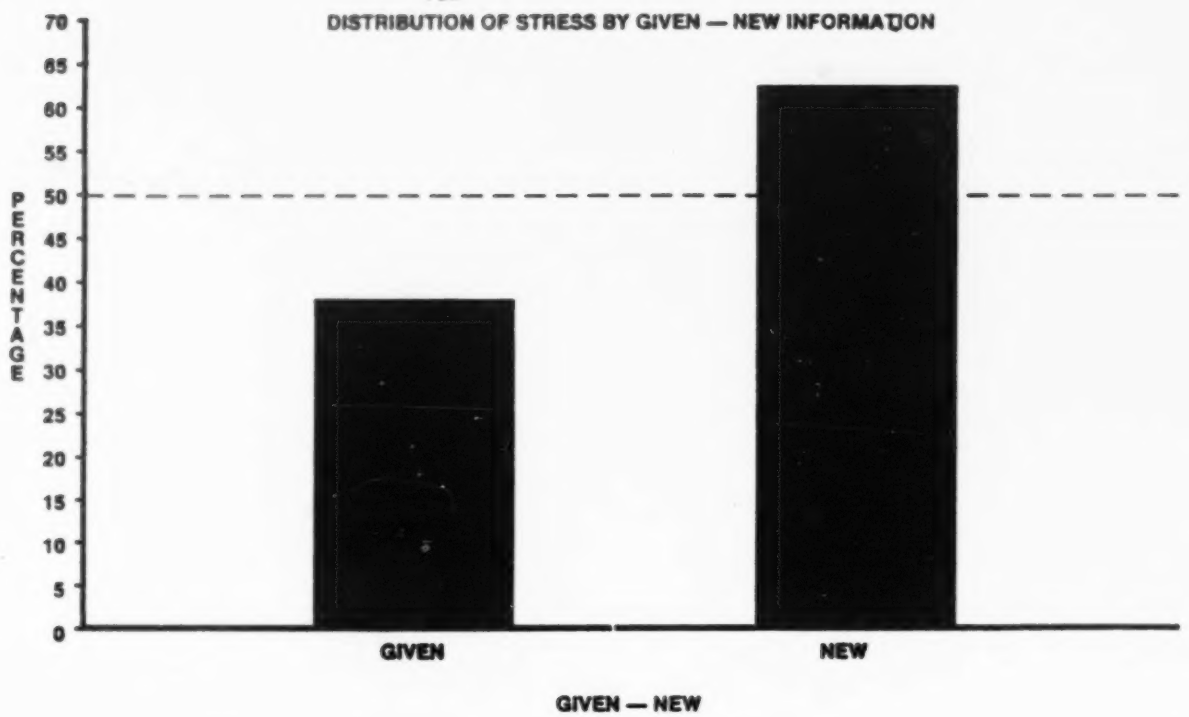

Figure 3

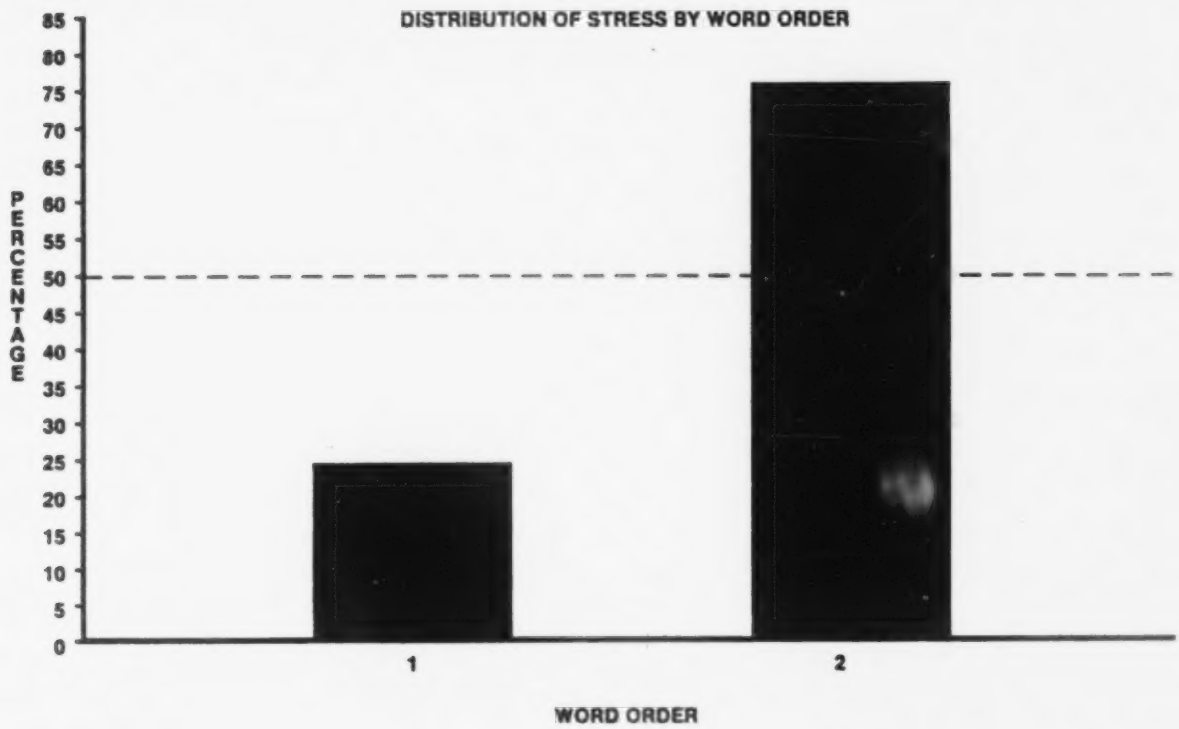

Figure 4

DISTRIBUTION OF STRESS BY WORD ORDER AND
GIVEN/OLD OR NEW INFORMATION